

May 5 to 7, inclusive, 2.3 feet and 0.6 foot, respectively, above flood stages. Warnings for this flood were first issued on April 27, and the crest stage at El Paso was exactly as forecast.

The rivers of California fell generally during the month, and by the end the snow had entirely disappeared from the summit of the Sierras, 15 to 30 days earlier than usual. This shortage of water was forecast nearly two months before by the official in charge of the local office of the Weather Bureau at Sacramento.

The annual rise of the Columbia River ended about the middle of the month with very moderate stages, owing to the early disappearance of the winter snows and favorable temperature conditions. At The Dalles, Oreg., the crest stage was

33.1 feet, on May 14, 6.9 feet below the flood stage, while at Portland, on the Willamette River, the crest of 19.1 feet, 4.1 feet above flood stage, occurred on May 15 and 16. The river, however, was above flood stage throughout the month, and warnings of the coming of the high water were first issued on April 27.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

PROF. EDWARD B. GARRIOTT. 1853--1910.

By H. E. WILLIAMS, Assistant Chief of Bureau.

In the death, at Washington, D. C., on May 13, 1910, of Prof. Edward B. Garriott, the Weather Bureau lost a most efficient and highly esteemed official. Professor Garriott was born in Lockland, Ohio, March 17, 1853, and was educated in the public schools and Washington University of St. Louis, Mo. He entered the Service as a second class private in the Signal Corps on May 18, 1874, was promoted to first class private and sergeant, and on July 1, 1888, was transferred to the civil list as meteorological clerk. He was subsequently promoted to the grades of clerk, class four, forecast official, and professor of meteorology. He served as assistant at Portland, Me., and as official in charge at Milwaukee, Buffalo, Rochester, Pittsburg, New York City, Louisville, and Chicago, and as forecast official, Chief of Forecast Division, and supervising forecaster at the Central Office. He was a member of numerous boards, author of a number of valuable publications, was several times commended by the Chief of Bureau for efficient service, and attained high rank as a forecaster.

Among his more important papers were:

Types of storms in January. 4p. 25 chts. Mo'ly Weather Rev., 1895, 23:9.

Cold waves. Mo'ly Weather Rev., 1895, 23:12, 334.

High areas of the north Pacific coast in September, October, and November. 1p. 3 chts. Mo'ly Weather Rev., 1895, 23:249.

High areas north of the St. Lawrence Valley in October, November, and December. 1p. Mo'ly Weather Rev., 1895, 23:292.

Wind-barometer table. 1p. Mo'ly Weather Rev., 1897, 25:204.

West Indian hurricanes. W. B. Bul. "H." Washington, 1900. 69p. 7 chts. 4°.

Weather folk-lore and local weather signs. W. B. Bul. 33. Washington, 1903. 153p. 21 chts.

Storms of the Great Lakes. W. B. Bul. "K." Washington, 1903. 9p. 968 chts. 4°.

Relation of American weather to low pressure over the British Isles. Mo'ly Weather Rev., 1903, 31:†479a.

Long-range weather forecasts. W. B. Bul. 35. Washington, 1904. 68p.

Long-range weather forecasts. Proc. 3d Conven. W. B. Officials. Washington, 1904. p. 38-42.

Possible extension of the period of weather forecasts. 1p. Mo'ly Weather Rev., 1906, 34:22.

Cold waves and frost in the United States. W. B. Bul. "P." Washington, 1906. 22p. 328 chts. 4°.

Weekly weather forecasts. 1p. Mo'ly Weather Rev., 1908, 36:435.

His evenness of temper, genial disposition, cheerful and unhesitating compliance with all official instructions and requests, and marked ability in the discharge of his duties gained for him the sincere regard of all officials and employees with whom he was brought in contact. He leaves an enviable record in the Bureau and a most grateful memory in the hearts of all of his friends.

The following resolutions were passed at a meeting of the Weather Bureau employees on duty at the Central Office in recognition of his life and labors:

Whereas, it has pleased an almighty and inscrutable Providence to remove Professor Edward Bennett Garriott from the activities of a long and useful career; and,

Whereas, in his death the United States Weather Bureau has suffered the loss of an official known and honored for his scholarly and scientific attainments; and,

Whereas, its members have met with an equal loss in the passing of one who had a heartfelt interest in and friendship for each, from the highest to the lowest, be it

Resolved, That we, the members of the United States Weather Bureau, do hereby extol the high qualities of our late associate as a Government official, a genial gentleman, and a faithful and loyal friend, as well as express a sense of the deep loss that is felt because of his death, not only at the Central Office but throughout the entire service; and, be it also

Resolved, That a copy of these resolutions be furnished to the bereaved wife and daughter of our late associate and friend, with expressions of our sympathy and condolence in this the hour of their sorrow,

WILLIS L. MOORE,
HENRY E. WILLIAMS,
H. C. FRANKENFIELD,
EDWARD C. EASTON,

Committee.

Washington, D. C., May 14, 1910.

RECENT ADDITIONS TO THE WEATHER BUREAU LIBRARY.

C. FITZHUGH TALMAN, Librarian.

The following have been selected from among the titles of books recently received, as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies. Most of them can be lent for a limited time to officials and employees who make application for them. Anonymous publications are indicated by a —.

Batavia. Royal magnetical and meteorological observatory.

Report on cloud-observations at Batavia during the international cloud-year, 1896-1897. Appendix 2 to volume 30 of the observations. Utrecht. 1910. 32 p. f°.

— Blue Hill meteorological observatory, 1885-1910. Boston. 1910. 3 p. 8°. (Reprinted from the Technology review v. 12, no. 2.)

Brockett, Paul.

Bibliography of aeronautics. Washington. 1910. xiv, 940 p. 8°. (Smithsonian miscellaneous collections, v. 55.)

Denmark. Danske meteorologiske Institut.

Nautisk-Meteorologisk Aarbog. 1909. Kjøbenhavn, 1910. xliv, 154 p. f°.

Finland. Finske meteorologiske Centralanstalt.

Meteorologisches Jahrbuch. Bd. 3, 1903. Helsingfors. 1910. ix, 117 p. f°.

Finland. Finske Meteorologiske Central-Institut.

Observations météorologiques publiées par l'Institut Météorologique central de la Société des sciences de Finlande. 1899-1900. Helsingfors. 1909. 126 p. f°.

Golitsyn, Boris Borisovich.

Ueber die Bestimmung des Dämpfungsverhältnisses stark gedämpfter Horizontalpendeln. St. Petersburg. 1910. 21 p. 4°.

Great Britain. National physical laboratory.

Report of the observatory department, Richmond, Surrey, and of the observatory, Eskdalemuir, Langholm, Dumfriesshire, 1909. With appendices. Teddington, 1910. 62 p. 4°.

Greifswald. Meteorologische Station.

Die Ablesungen der meteorologischen Station Greifswald. .1908.

Greifswald. n. d. 50 p. 8°.

Same. 1909. Greifswald. 1910. 50 p. 8°.

Havana. Observatorio meteorologico, magnetico y seismico del Colegio de Belen.

Año de 1909. Habana. 1910. f°.

Hegyfoky, J.

Die jährliche Periode der Niederschläge in Ungarn. Budapest. 1909. v. 129 p. f°. (Officielle Publicationen der dem Königl. ungar. Ackerbau-Minister unterstehenden Königl. ung. Reichsanstalt für Meteorologie und Erdmagnetismus. 1909. Band 8.)

Korhonen, W. W.

Schnee- und Eisverhältnisse in Finland im Winter 1901-1902. Helsingfors. 1910. 47 p. f°. (Beilage zum Finnländischen meteorologischen Jahrbuch, Jahrg. 1902.)

Mizusawa. International latitude observatory.

Annual report of the meteorological and the seismological observations. [Mizusawa.] 1910. 36 p. f°.

Strassburg. Zentralbureau der Internationalen seismologischen Association.

Katalog der im Jahre 1906 registrierten seismischen Störungen. 1. Teil. Die schwächeren und weniger ausgeprägten Störungen (3 B.). Von Siegmund Szirtes. Strassburg. 1910. IV, 109 p. f°. (Veröffentlichungen...).

Sundell, A. F.

Barometervergleichungen ausgeführt in den Jahren, 1886-1887 an verschiedenen meteorologischen Centralstellen. Helsingfors. 1887. 64 p. 4°. (Abdruck aus "Acta Societatis scientiarum Fenniae," Tom. 16.)

Ueber ein neues schweres Horizontalpendel mit mechanischer Registrierung für seismische Stationen zweiten Ranges. St. Petersburg. 1910. 75 p. 4°.

Vergleichungen zwischen Normalbarometern. Helsingfors. 1906. 59 p. 4°. (Acta Societatis scientiarum Fenniae. Tom. 34. no. 2.)

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a —.

American forestry. Washington. v. 16. June, 1910.

Rothrock, J. T. Some observations on forests and water-flow. p. 349-351.

American geographical society. Bulletin. New York. May, 1910.

Stefánsson, V. Underground ice in northern Alaska. p. 337-345.

American philosophical society. Proceedings. Philadelphia. v. 49. Jan.-April, 1910.

Hobbs, Wm. Herbert. Characteristics of the inland-ice of the Arctic regions. p. 57-129.

Engineering news. New York. v. 63. 1910.

— Records of evaporation obtained at 23 different stations in various parts of the United States. p. 694-695. (June 16.)

Gannett, Farley. What stream gagings indicate as to the run-off from forested and barren areas. p. 759-760.

Geographical journal. London. v. 35. June, 1910.

— Local winds in the south of France. p. 718-719. [Extr. of paper by Martonne.]

Nature. London. v. 83. 1910.

Palmer, Andrew H. The temperature conditions within clouds. p. 396-397. (June 2.)

Dines, W. H., & Pring, J. N. Meteorological observations during the passage of the earth through the tail of Halley's comet. p. 427. (June 9.) [Upper air observations, including measurements of ozone.]

Weinberg, Boris. On the preservation of hailstones and the investigation of their microstructure. p. 427-428. (June 9.)

Royal meteorological society. Quarterly journal. London. v. 36. April, 1910.

Mellish, Henry. Some relations of meteorology with agriculture. p. 77-92.

Mawley, Edward. Report on the phenological observations for 1909. p. 93-119.

Makower, W. and others. Investigation of the electrical state of the upper atmosphere, made at the Howard estate observatory, Glossop, July and August, 1909. p. 121-126.

Harwood, W. A. Results of twenty-five registering balloon ascents made from Manchester, June 2 and 3, 1909. p. 127-134.

Lempfert, R. G. K., & Corless, Richard. Line-squalls and associated phenomena. p. 135-170.

Palmer, Andrew H. Model of the chrono-isotherms of Boston Mass., U. S. A. p. 181.

School science and mathematics. Chicago. v. 15. June, 1910.

Wade, Frank H. An inexpensive anemometer. p. 480-483.

Science. New York. v. 31. June 3, 1910.

Barnes, H. T. On the apparent sinking of surface ice in lakes. p. 856-857.

Scientific American. New York. v. 102. June 18, 1910.

— A storm-warning service for aeronauts. p. 511-512.

Scientific American supplement. New York. v. 69. June 25, 1910.

Paine, Ellery B. Lightning: A summary of recent studies. p. 407. [Includes estimates of voltage, strength of current, energy, etc.]

Symons's meteorological magazine. London. v. 45. 1910.

Gibson, Herbert. The genesis and function of the dew-pond. p. 63-67. (May.)

— The British rainfall organization. A new development. p. 81-83. (June.)

Salter, Carl. The rainfall in Jamaica in November, 1909. p. 85-86. (June.)

Jones, J. R. Gethin. The latest winter snow spot in England and Wales. p. 90-91. (June.)

C. H. E. Wind waves in water, sand and snow. p. 74-75; 93-94. (May.)

Terrestrial magnetism. Baltimore. v. 15. June, 1910.

Kidson, Edward. Atmospheric electricity observations on the first cruise of the "Carnegie." p. 83-91.

Archives des sciences physiques et naturelles. Genève. Tome 29. 15 mai 1910.

Voeikov, A. L'extension du hêtre, fonction du climat. p. 506-519.

Ciel et terre. Bruxelles. 31 année. Mai 1910.

Arctowski, Henryk. Les anomalies de la répartition de la pression atmosphérique aux États-Unis. p. 200-201.

Poskin, P. Cycles du temps dans l'accroissement des grands arbres. p. 201-208. [Review of paper by A. E. Douglass in MONTHLY WEATHER REVIEW.]

Cosmos. Paris. 59 année. 1910.

L. B. Bernard Brunhes, physicien et météorologue. p. 593-594. (28 mai.)

Boyer, Jacques. Nouvelles recherches sur la résistance de l'air. p. 685-688.

France. Académie des sciences. Comptes rendus. Paris. Tome 150. 23 mai 1910.

Angot, Alfred. Variations magnétiques et électriques dans la nuit du 18 au 19 mai 1910. p. 1371-1372.

Lebel, J. A. Observation de l'ionisation de l'air en vase clos pendant le passage de la comète de Halley. p. 1372-1373.

Nature. Paris. 38 année. 28 mai 1910.

Loisel, J. La prévision du temps. p. 403-408.

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 38. Jahrgang. Juni 1910.

Lütgens, Rudolf. Weitere Untersuchungen über die Verdunstung auf dem Meer. p. 267-271.

Geographische Zeitschrift. Leipzig. 16. Jahrgang. Mai 1910.

Thorbecke, F. Das ozeanisch-subtropische Klima und die Gebiete der Etesien und Winterregen. p. 261-272.

Himmel und Erde. Berlin. Jahrgang 22. Juni 1910.

Peppler, W. Die neue Methode der Wettervoraussage von G. Guillet. p. 390-393.

Meissner, Otto. Die Temperaturverhältnisse Berlins in den letzten 170 Jahren. p. 420-423.

Illustrierte aeronomutische Mitteilungen. Berlin. 14. Jahrgang. 15. Juni 1910.

Polis, Peter. Der Wetterdienst beim Gordon-Bennett-Ausscheidungsfliegen zu Essen am 5. Juni 1910. p. 11-13.

Meteorologische Zeitschrift. Braunschweig. Band 27. Mai 1910.

Billwiller, R., jun. Ein neues Modell eines geschützten Regenmesser (als geänderter Nipherischen Trichter). p. 193-198.

Schreiber, Paul. Einfache Hilfsmittel zum Studien der Vorgänge in den oberen Schichten der Atmosphäre. p. 198-209.

— Professor Knut Ångström. p. 211.

Gold, E., & Harwood, W. A. Temperaturverhältnisse der freien Atmosphäre. p. 211-215. [Replies to criticisms of their report to the British Association.]

Hann, J. Julius. Ist die Luft auf den Bergen kälter als die Atmosphäre in gleicher Höhe? p. 215-217.

Everdingen, E. van. Ist die Luft auf den Bergen kälter als die Atmosphäre in gleicher Höhe? p. 217-219.

Trabert, W. Zur Frage des Temperaturunterschiedes auf Bergen und in der "freien" Atmosphäre. p. 219-220.

— A. Gockel über die in der Atmosphäre vorhandene durchdringende Strahlung. p. 221-222.

Kurz, K. Die radioaktiven Stoffe in der Erde und in der Luft als Ursache der durchdringenden Strahlung in der Atmosphäre. p. 223-224.

Mache, H. Beiträge zur Kenntnis der atmosphärischen Elektrizität. XXXVI. Messungen über die in der Atmosphäre vorhandene radio-